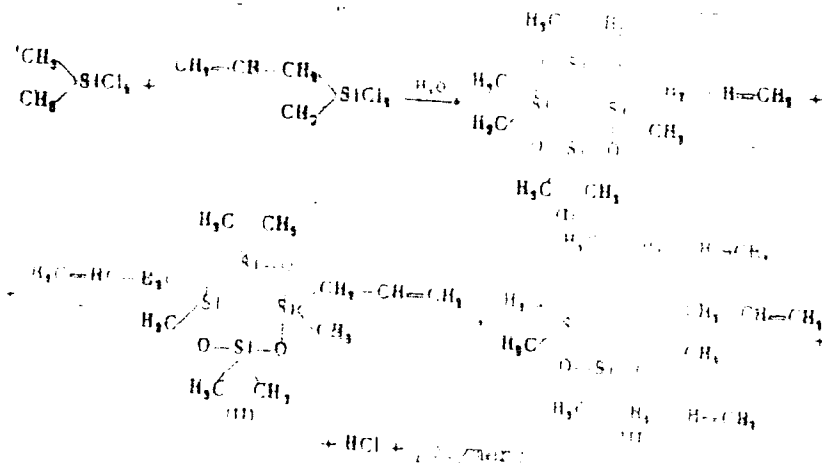


L 29105-65

ACCESSION NR: AP5003962



The structure and the mechanical properties of the synthesized products are shown in the Enclosure. Original article in Russian language. Submitted by: Moskovskiy institut toskoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology)

SUBMITTED: 28 Oct 63  
EO REF SOV: 002  
Card 2/3

ENCL: 01  
OTHER: 011

SUB CODE: OC

1 20105-65

ACCESSION NR: AP5003962

ENCLOSURE: 01

No.	Name of compound	Boiling point (° mm)	n <sub>D</sub> <sup>20</sup>	d <sub>4</sub> <sup>20</sup>	R <sub>D</sub>	
					found	calc.
I	Heptamethyl allyl cyclotetrasiloxane	41° (3)	1.4219	0.9614	83.31	83.61
II	Hexamethyl diallyl cyclotetrasiloxane	57-58 (3)	1.4243	0.9621	82.78	92.10
III	Pentamethyl triallyl cyclotetrasiloxane	62 (3)	1.4267	0.9621	82.17	100.85
IV	Tetramethyl allyl cyclotetrasiloxane	70-72 (3)	1.4281	0.9623	81.17	100.85
V	Dimethyldiethyl diallyl cyclotrisiloxane	67-69 (1)	1.4375	0.9629	82.12	82.88
VI	Tetramethyl trivinyl cyclotetrasiloxane	49 (5)	1.4247	0.9619	81.94	82.67

Card 3/3

EXPERIMENTAL (EXP) (3) P-4 P-4 RM

Organosilicon compound, methylchlorosilane, methylchlorosilane

Reaction of the addition of methylchlorosilane to methylchlorosilane

Reaction of the addition of methylchlorosilane to methylchlorosilane

Card 1/2

Всероссийский институт тонкой химической технологии  
г. Москва, ул. Фрунзе, 4. Тел. 2-10-10.

D. 1.

OTHER: 000

Card 2/2

**"APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721720019-2**

**APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721720019-2"**

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CIA-RDP86-00513R000721720019-2

APPROVED FOR RELEASE: 09/17/2001

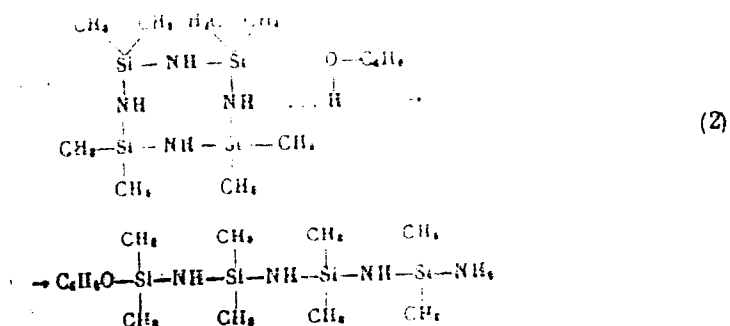
CIA-RDP86-00513R000721720019-2"



4-077-1

ACCESSION NR: AP5009660

the reaction of the alcohol with hexamethyldisilazane, the ring is



the amino group of the compound thus formed reacts with the alcohol, and ammonia

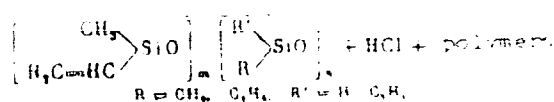
Card 2/4





TOPIC TAGS: silane, silicon organic compounds, hydrolysis, organic synthesis

different



1,3,5,5-tetraethylcyclotrisiloxane and 1,3,5-trimethyl-3,5-dimethyl-

546.297 542.938 23, 5

another chemical...

... ester...

... of methylallyl...

... Yield is 10.5% and 1,4-diallyl-2,5-dimethylcycloocta-

... 1.4%.

... allyl-3,5,7-triethylcyclooctatetraene (V), yield 0%, and 1-ethyl-3,5,7-

yield 15.6% and VI, yield 19.5%, were formed. The authors thank M. G. Zaytseva for the determination of the IR spectra. Orig. art. has: 3 formulas and 1 table.

**"APPROVED FOR RELEASE: 09/17/2001**

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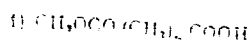


L 60047-65

ACCESSION NR: AP5017980



only if the molar ratio of glycerol to acid is 1:5, so that no polymers are formed. Esters of adipic and sebacic acid were thus obtained and identified. The oligomers were synthesized by condensing tribasic glyceric acids with hexamethylenediamine and glycols. It was found that also in this case, when the ratio of glyceric acids to the other component is 1:5, the reaction proceeds with the formation of oligomers as follows:



4. The samples were separated by removing excess hexane and then washing with water. The products were then dried in a vacuum oven at 40°C for 24 hours.

L 60852-65

EPA(s)-2/ENT(m)/EPF(c)/EWP(j)/T

WPA/DT/UM

...my...  
...compound...

Cont. 5





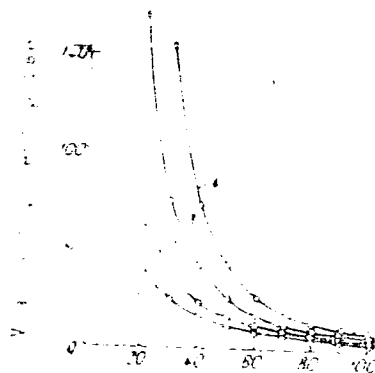
185019678

ENCL: 02

IMP CODE: 01

OTHER: 005

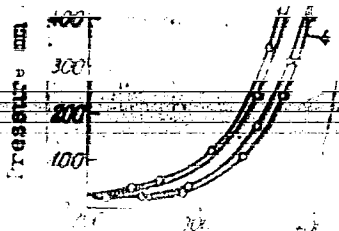
ATT: 4063



Temperature dependence of the

area

ACCESSION INT. ADRAFOA74



ANDRIANOV, K.A.; TALANOV, V.N.; KHANANASHVILI, L.M.; SOBOLEV, Ye.S.

Interaction of  $\alpha,\omega$ -dichlorodimethylsiloxanes with ethylamine  
and diethylamine. Izv. AN SSSR. Neorg. mat. 1 no.11:1849-  
1852 N '65. (MIRA 18:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
M.V. Lomonosova. Submitted June 3, 1965.

L 16082-66

EWI(m)/EWP(j)

WW/RM

ACC NR: AP6005930

SOURCE CODE: UR/0079/66/036/001/0105/0107

AUTHOR: Andrianov, K. A.; Kurakov, G. A.; Kopylov, V. M.; Khananashvili, L. M.

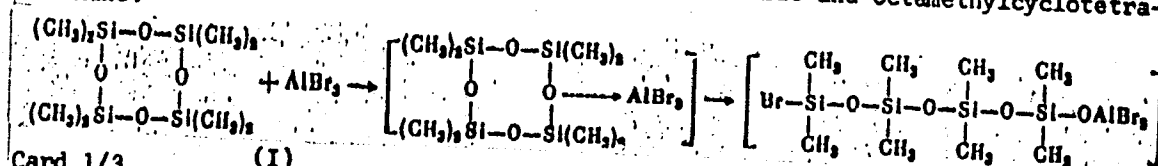
ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Reaction of aluminum bromide with octamethylcyclotetrasiloxane

SOURCE: Zhurnal obshchey khimii, v. 36, no. 1, 1966, 105-107

TOPIC TAGS: organosilicon compound, <sup>44,5</sup>aluminum compound, bromide

ABSTRACT: The reaction between octamethylcyclotetrasiloxane and aluminum bromide under various conditions and with various proportions of the reactants was studied. The authors found that the reaction proceeds in accordance with the mechanism proposed earlier for the reaction between aluminum chloride and octamethylcyclotetrasiloxane:



Card 1/3

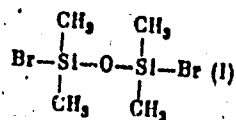
(I)

UDC: 547.245 + 546.623

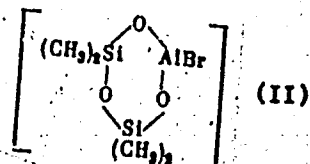
L 16082-66

ACC NR: AP6005930

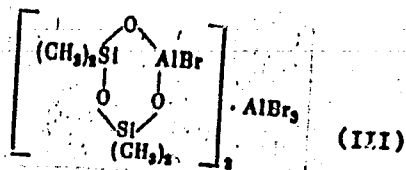
The product formed decomposes to form



and



Two molecules of compound (II) then react with one molecule of AlBr to form the complex compound

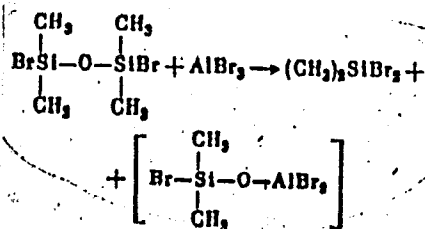


Under more drastic conditions, the following reaction occurs during distillation of the products at atmospheric pressure:

Card 2/3

L 16082-66

ACC NR: AP6005930



By changing the reaction conditions, one can obtain dimethyldibromosilane tetra-  
methyldibromodisiloxane, crystalline product (III), and higher  $\alpha, \omega$ -dibromopolysilo-  
xanes with 3 and 4 silicon atoms. Orig. art. has: 2 tables.

SUB CODE: 07/

SUBM DATE: 10Jul64/

ORIG REF: 001/

OTH REF: 001

Card 3/3



L 10125-66 EWT(m)/EWT(1) JW/JWD/RM  
ACC NR: AP6011655

SOURCE CODE: UR/0020/66/167/003/0571/0574

AUTHOR: Andrianov, K. A. (Academician); Sidorov, V. I.; Khananashvili, I. M. 49  
B

ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: The nitrosochlorination of alkenylmethylsiloxanes

SOURCE: AN SSSR: Doklady, v. 167, no.,3, 1966, 571-574

TOPIC TAGS: reaction mechanism, chemical reaction, siloxane, chlorination, organic nitroso compound, OLEFIN, CHLORIDE

ABSTRACT: The authors analyze the addition of nitrosyl chloride to olefins on the example of 3-vinyl-heptamethyl-trisiloxane (I) and allyl-pentamethyl-disiloxane. (II). The experiments showed that in the case of I, the only reaction product was the corresponding nitrochloride (III). The probable reaction course is

Card 1/2

UDC: 547.128

Card

L 25629-66 EWT(m)/EWP(j)/T DJ/RM

ACC NR: AP6015645

(A)

SOURCE CODE: UR/0413/66/000/009/0055/0055

INVENTOR: Andrianov, K. A.; Vasil'yev, Yu. N.; Vorob'yev, Yu. F.; Kolesnikov, S. A.;  
Sigarev, A. M.; Khananashvili, L. M.

ORG: none

TITLE: Antifriction lubricant. Class 23, No. 181222

SOURCE: Izobreteniya, promyshlennyye obraztsey, tovarnyye znaki, no. 9, 1966, 55

TOPIC TAGS: molybdenum disulfide, solid lubricant, silicone lubricant

ABSTRACT: An Author Certificate has been issued for an antifriction lubricant based on molybdenum disulfide. To improve its quality, the lubricant is formulated to include petroleum coke, and polymethylphenylsiloxane and polyaluminophenylsiloxane resins. (SM)

SUB CODE: 11/ SUBM DATE: 06Mar65/ ATD PRESS: 4256

Cord 1/1 FV

UDC: 621.893

KHAKHASHVILI, V. M.

"Differentiation of Positive Conditioned Irritations Reinforced by Uniform Unconditioned Alimentary Reflexes." Cond Med Sci, Inst of Experimental Medicine, Acad Med Sci, Leningrad, 1954. (RZhBiol, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)  
SO: Sum. No. 556, 24 Jun 55

KHANANASHVILI, M.M.

Differentiation of positive conditioned stimuli reinforced by  
homogenous unconditioned irritation. Zhur.vyssh.nerv.deiat.  
5 no.4:565-573 J1-Ag '55. (MLRA 8:11)

1. Fiziologicheskoy otel im. I.P.Pavlova Instituta eksperiment-  
tal'noy meditsiny AMN SSSR.

(REFLEX, CONDITIONED,

differentiation of basic stimuli reinforced with  
homogenous unconditioned factors)

*KHANANASHVILI, M. M.*

USSR/Human and Animal Physiology. The Nervous System.

V

Abs Jour: Ref. Zhur-Biol., No 6, 1958, 27432.

Author : M.M. Khananashvili.

Inst : The Institute of Experimental Medicine of the  
Academy of Medical Sciences of the USSR

Title : New Data on the Differentiation of Conditioned  
Special Stimuli

Orig Pub: Yezhegodnik. In-t eksperim. med. Akad. med. nauk  
SSSR, 1955, Leningrad, 1956, 36-40.

Abstract: A conditioned response to  $M_{120}$  was established  
in a dog in association with feeding reinforcement under conditions in which the animal was  
free to move about a room, the floor of which  
was divided into squares. The  $M_{120}$  was included

Card : 1/2

KHANASHVILI, M.M.

Participation of the inhibitory process in differentiation of basic conditioned stimuli. Zhur.vys.nerv. delat. 6 no.3:433-437 My-Je '56.

(MLRA 9:11)

1. Fiziologicheskiy otdel im. I.P.Pavlova IEM AMN SSSR.

(REFLEX, CONDITIONED,

inhib. processes in differentiation of basic stimuli  
(Rus))

KUPALOV, P.S., KHANANISHVILI, M.M.

Complex motor reactions to inhibiting stimuli [with summary in English]. Zhur.vys.nerv.delat. 8 no.5:629-636 8-0 '58 (MIRA 12:1)

1. Fiziologicheskii otdel im. I.P. Pavlova Instituta eksperimental'noy meditsiny AMN SSSR.

(REFLEX, CONDITIONED,

complex motor reactions to inhib. stimuli (Rus))

(MOVEMENTS,

SAME (Rus))

KHANANASHVILI, M.M.

Correlation between the cortical segments of the visual and motor  
analysors following interruption of association connections of the  
neocortex. *Fiziol.shur.* 44 no.10:615-921 0'58 (MIRA 12:1)

1. From I.P. Pavlov's physiological laboratory, Institute of  
Experimental Medicine, Leningrad.

(CEREBRAL CORTEX, physiol.

eff. of interruption of neocortical connections  
on cortical ends of visual & motor analyzers (Rus))



BIRYUKOV, D.A., otv. red.; ABULADZE, K.S., red.; DANILOV, I.V., red.;  
KUDRYAVTSEVA, N.N., red.; KOSTENETSKAYA, N.A., red.; LAPINA,  
I.A., red.; MURAV'YEVA, N.P., red.; KHANANASHVILI, M.M.,  
red.; ZIMKINA, A.M., red.; KHARASH, G.A., tekhn. red.

[Some problems of modern physiology; a collection of papers  
dedicated to the 70th birthday and 45th anniversary of the sci-  
entific activity of the Honored Scientist, Professor Petr  
Stepanovich Kupalov, member of the Academy of Medical Sciences  
of the U.S.S.R.] Nekotorye voprosy sovremennoi fiziologii;  
sbornik, posviashchennyi 70-letiiu so dnia rozhdeniia i 45-  
letiiu nauchnoi deiatel'nosti deistvitel'nogo chlena AMN SSSR  
zasluzhennogo deiatelia nauki professora Petra Stepanovicha  
Kupalova. Leningrad, Medgiz, 1959. 262 p. (MIRA 15:8)

1. Institut eksperimental'noy meditsiny Akademii meditsinskikh  
nauk SSSR (for Biryukov, Abuladze).

(KUPALOV, PETR STEPANOVICH, 1889?- )  
(PHYSIOLOGY)

KUPALOV, P.S.; KHANANASHVILI, M.M.

Differentiation of spatial conditioned stimuli. Zhur. vys. nerv.  
deiat. 10 no. 3:305-312 My-Je '60. (MIRA 14:2)

1. Pavlov Physiology Department, Institute of Experimental  
Medicine, U.S.S.R. Academy of Medical Sciences, Leningrad.  
(CONDITIONED RESPONSE) (SPACE PERCEPTION)

KHANANASHVILI, M.M.

Differentiation of close positive conditioned stimuli. Zhur.vys.  
nerv.deiat. 10 no.6:874-879 N-D '60. (MIRA 14:1)

1. Fiziologicheskiy otdel im. I.P.Pavlova Instituta eksperimental'noy  
meditsiny Akademii meditsinskikh nauk SSSR.  
(CONDITIONED RESPONSE)

KHANANASHVILI, M.M.

Mode of action of aminazine on the higher nervous activity.  
Farm.1 toks. 23 no.4:295-299 J1-Ag '60. (MIRA 14:3)

1. Fiziologicheskiy otdel imeni I.P.Pavlova (zav. - deystvitel'nyy  
chlen AMN SSSR prof. P.S.Kupalov) Instituta eksperimental'noy  
meditsiny AMN SSSR.

(CHLORPROMAZINE)

(CONDITIONED RESPONSE)

KHANANASHVILI, M.M.

Role of the lateral geniculate body in performance of visual function.  
Fiziol.zhur. 46 no.2:156-160 F '60. (MIRA 14:5)

1. From I.P.Pavlov' Department of Physiology, Institute of Experimental Medicine, Leningrad.  
(OPTIC THALAMUS) (VISION)

KHANANASHVILI, M.M.

Operation for excluding the function of the cerebral hemispheres.  
Fiziol.zhur. 47 no.5:661-662 My '61. (MIRA 14:5)

1. Fiziologicheskiiy otdel imeni I.P.Pavlova Instituta eksperimental'noy  
meditsiny AMN SSSR, Leningrad.  
(BRAIN--SURGERY)

KHANANASHVILI, M.M. (Leningrad)

"Atlas of the brain in the dog" by O.S.Adrianov, T.A.Mering.  
Reviewed by M.M.Khananashvili. Fiziol. zhur. 47 no.9:1212-1213  
S '61. (MIRA 14:9)

(DOGS--ANATOMY)  
(ADRIANOV, O.S.)

(BRAIN)  
(MERING, T.A.)

KHANANASHVILI, Mikhail Mikhaylovich; VASIL'YEVA, Z.A., red.;  
BUGROVA, T.I., tekhn.red.

[Experimental study of the central mechanisms of the visual  
function] Eksperimental'noe issledovanie tsentral'nykh  
mekhanizmov zritel'noi funktsii. Leningrad, Medgiz, 1962.  
179 p. (MIRA 15:5)

(BRAIN—LOCALIZATION OF FUNCTIONS)  
(VISION)



KHANANASHVILI, M.M.; VCLKOVA, V.D.

Method for the long-term implantation of cannulae into the brain  
of animals. Fiziol.zhur. 48 no.6:762-764 Je '62. (MIRA 15:8)

1. Fiziologicheskij otdel imeni I.P.Pavlova Instituta eksperimental' -  
noy meditsiny, Leningrad.  
(BRAIN--SURGERY)

VOLKOVA, V.D.; KHANANASHVILI, M.M.

Some data on the effect of aminazine on complex conditioned reflex activity of animals following its direct introduction into different segments of the brain. Biul. eksp. biol. i med. 54 no.9:65-68 S '62. (MIRA 17:9)

1. Iz fiziologicheskogo otdela imeni Pavlova (zav.- deystvitel'-nyy chlen AMN SSSR P.S. Kupalov) Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad. Predstavleno deystvitel'nyy chlenom AMN SSSR P.S. Kupalovym.

KHACHANASHVILI, M. P.

Dissertation defended at the Institute of Physiology named I. P. Pavlov  
for the academic degree of Doctor of Medical Sciences:

"Experimental Investigations of the Central Mechanism of the Visual  
Function."

Vestnik Akad Nauk, No. 4, 1963, pp. 119-145

KHANANASHVILI, M.M.

Associative connections of the visual analyzer nucleus of the cerebral cortex. Biul. eksp. biol. i med. 56 no.11:116-119  
0 [i.e. N] '63. (MIRA 17:11)

1. Iz fiziologicheskogo otdela imeni Pavlova (zav. - deystvitel'nyy chlen AMN SSSR P.S. Kupalov) Instituta eksperimental'noy meditsiny (dir. - deystvitel'nyy chlen AMN SSSR D.A. Biryukov) AMN SSSR, Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR P.S. Kupalovym.

KUPALOV, Petr Stepanovich [deceased]; VOYEVODINA, Ol'ga Nikolayevna;  
VOLKOVA, Valentina Dmitriyevna; MALYUKOVA, Irina Vasil'yevna;  
SELIVANOVA, Al'bina Timofeyevna; SYRENSKIY, Valeriy Ivanovich;  
KHANANASHVILI, Mikhail Mikhaylovich; SHICHKO, Gennadiy  
Andreyevich; BERKENBLIT, Z.M., red.

[Situational conditioned reflexes in normal dogs and in  
pathology] Situatsionnye uslovnye refleksy u sobak v norme i  
patologii. Leningrad, Meditsina, 1964. 274 p.

(MIRA 17:8)

KHANANASHVILI, M.M.; BELYKOVA, I.I.

Data for the analysis of complex unconditioned reflexes of the maternity and labor in higher mammals. Zhur. vys. nerv. deiat. 14 no.3:498-502 My-Je '64. (MIRA 17:11)

1. Pavlov Physiology Department, Institute of Experimental Medicine, U.S.S.R. Academy of Medical Sciences, Leningrad.

KHANANASHVILI, M.M.

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721720019-2"

Orienting reflex and the first conditioned motor response. Zhur. vys. nerv. deiat. 15 no.2:303-310 Mr-Apr '65.

(MIRA 18:5)

1. Fiziologicheskiy otdel imeni I.P. Pavlova Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

KHANANASHVILI, M.M.

Structural principles in the development of conditioned reflexes  
to visual and sound stimuli. Vest. AMN SSSR 19 no.6:27-35 '64.  
(MIRA 18:4)

1. Institut eksperimental'noy meditsiny AMN SSSR, Leningrad.

KHANANASHVILI, M.M.

Differentiation of acoustic conditioned stimuli by the criterion of the time of intensity rise and the significance of the temporal region of the cerebral cortex in this function. Zhur. vys. nerv. delat. 15 no.5:788-795 S-O '65. (MIRA 18:11)

1. Fiziologicheskiy otdel im. I.P. Pavlova Instituta eksperimental'noy meditsiny AMN SSSR.



KHANANASHVILI, M.M.

Electric activity of neuron-isolated neocortex in a chronic experiment. Fiziol. zhur. 51 no.1:19-26 Ja '65. (MIRA 18:7)

1. Fiziologicheskij otdel imeni Pavlova Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

CHERNOVTSY, L. I., Cand Med Sci -- (diss) "Plasticity of arteries of  
the pancreas and functions its secretory apparatus in the collateral  
blood circulation (anatomico-functional research)," Chernovtsy, 1960,  
19 pp (Chernovtsy State Medical Institute) (KL, 36-60, 119)

KHANANAYEV, L.I. (g. Stanislav, ul. Gastello, 24, kv.1)

Plasticity of the collaterals and functional evaluation of the  
incretory apparatus of the pancreas in experimental conditions.  
Arkhnat.gist.1 embr. 37 no.11:96-102 N '59. (MIRA 13:4)

1. Kafedra normal'noy anatomii (zaveduyushchiy - prof. Ye.P. Mel'-  
man) Stanislavskogo meditsinskogo instituta.  
(PANCREAS blood supply)

KHANANAYEV, L.I.

Dynamics of functional changes in the insular apparatus of the  
pancreas after experimental ligation of its vessels. Probl.  
endok. 1 gorm. 6 no. 4:17-23 J1-Ag '60. (MIRA 14:1)  
(PANCREAS)

KARPLYUK, Z.V.; KHANANAYEV, L.I. [Khananaiev, L.I.]

Trace element (zinc, copper) and sugar content of blood in dogs  
following ligation of the three main arteries of the pancreas.  
Ukr.biokhim.zhur. 32 no.2:283-290 '60. (MIRA 13:11)

1. Department of Biochemistry of the Stanislav Medical Institute.  
(PANCREAS--BLOOD SUPPLY)  
(BLOOD SUGAR)  
(TRACES ELEMENTS)

KHANANAYEV, I.I. (Ivano-Frankovsk, ul. Gastello, 24, kv.1)

Effect of the extirpation of individual components of the solar  
plexus on the development of collateral circulation of the pancreas.  
Arkhn.anat., gist. 1 embr. 47 no.10:49-55 G 164.

(MIRA 18:6)

1. Kafedra normal'noy anatomi (zav. - prof. Ye.F.Mel'man) Ivano-  
Frankovskogo meditsinskogo instituta.

MEL'MAN, Ye.P.; KARPLYUK, Z.V.; KLIPICH, V.I.; KOTURBASH, T.V.; ZHANANAYEV, L.I.

Effectiveness of revascularization of the testis by the directed change of their blood supply; experimental study. Urologia. 29 no.3:16-21 My-Je '64. (MIRA 18.10)

1. Kafedra anatomii (zav.- prof. Ye.P. Mel'man), gosital'naya khirurgicheskaya klinika (zav.- prof. S.A. Verkhvatskiy), kafedra biokhimii (zav.- doktor med. nauk G.A. Fabenko) i kafedra topograficheskoy anatomii s operativnoy khirurgiyey (zav.- prof. I.A. Nikol'skaya) Ivano-Frankovskogo meditsinskogo instituta.

L 45144-66 EWT(d)/EWT(m)/EWP(v)/EWP(k)/EWP(h)/EWP(t)/ETI/EWP(1) IJP(c)

ACC NR: AR6027560 JD/JG SOURCE CODE: UR/0272/66/000/005/0066/0066

AUTHOR: Khananayev, V. G.

TITLE: A screw-cutting machine

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika, Abs. 5.32.474

REF SOURCE: Chasy, chas. mekhanizmy, no. 6, 1965, 15

TOPIC TAGS: screw machine, lathe/NT-139 screw machine

ABSTRACT: The paper concerns a NT-139 screw machine manufactured and introduced into production at the Minsk Watch Plant for cutting threads into eight and four apertures of "Luch" platinum watches (M 0.7 x 0.175 and M 0.6 x 0.15). A kinematic diagram of the lathe is given and the principles of its operation described. The output is 4500 components per shift. The lathe is easy to adjust as well as to use. [Translation of abstract] [FM]

SUB CODE: 13, 14/ SUBM DATE: none/

Card

1/1

UDC: 681.11.05



SBRIZHER, G.I.; KHANANAYEV, V.G.

Automatic machining of the plates of "Zaria" watches.  
Priborostroenie no.11:23-24 N '62. (MIRA 15:12)  
(Clockmaking and watchmaking--Machinery)

KHANANINA, M. B.

Occupational diseases

Dissertation "Clinical and Medical Treatment of Lymphogranulomatosis." Cand Med  
Sci, Second Moscow State Medical Inst imeni I.V. Stalin, 22 Mar 54. (Meditsinskiy  
Rabotnik, Moscow, 13 Mar 54).

SO: SUM 213, 20 Sep 54.

PAKHM, T., inzh.-tehnolog (g.Sverdlovsk); KOSSEI, L., inzh. (g.Leningrad, nab.Kutuzova, d.12, kv.10); BOK-SHAKIV, A. (g.Leningrad); BLSKURNIKOV, A.; KHANANOV, A., inzh.

Advertising board. Izobr.i n. . no.6:56-57 Je '60. (MIRA 14:2)

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(Technological innovations)

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Complex compounds of Pd (IV). Dokl. AN SSSR 159 no.3:586-587  
N '64 (MIRA 18:1)

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AN SSSR. Predstavleno akademikom I.I. Chernyayevym.

PANKRATOV, A.V.; KHANANOVA, E.Ya.

Synthesis of nitrogen trifluoride. Zhur.neorg.khim. 7 no.7:1743.J1 '62.

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Compounds of PdIV tetramine type. Zhur.neorg.khim. 10 no.11:2579-  
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BABAYEVA, A.V.; KHANANOVA, E.Ya.

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GOLOVNYA, V.A.; DERBISHER, G.V.; MAYOROVA, A.G.; MURAVEYSKAYA,  
G.S.; NAZAROVA, L.A.; NOVOZHENYUK, Z.M.; ORLOVA, V.S.; USHAKOVA,  
N.I.; FEDOROV, I.A.; FILIMONOVA, V.N.; SHENDERETSKAYA, Ye.V.;  
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handbook] Sintez kompleksnykh soedinenii metallov platinovoi  
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(MIRA 18:10)

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AN SSSR. Submitted May 28, 1965.

KHANANYAN, M. M.

AID P - 275

Subject : USSR/Engineering  
Card : 1/2  
Authors : Rubachev, G. N., Lodzhevskiy, L. G. and Khananyan, M. M.  
Title : Study, coordination, and dissemination of advanced methods of work on underground repair of oil wells  
Periodical : Neft. Khoz., v. 32, #4, 1-4, Ap 1954  
Abstract : The author describes the study and development of rational methods for underground repair work in oil wells as performed by the Central Scientific Research Institute for Mechanization and Organization of Labor in the Petroleum Industry (TsIMTNeft) and its branches. The experience and initiative of advanced brigades, shifts and individual innovators is considered in the promotion of the new methods for repair of oil wells. Essential material, tools and machines are assembled in regional oil fields for special crews trained in photo-chronometric methods of operation in accordance with a pre-planned schedule. The perfected method of repair work with Molchanov's automatic mechanism is specially

RUBACHEV, Georgiy Nikolayevich; FATKULLIN, Mukhtar Khurmatovich; KHANAHYAN,  
Melik Maiorovich; PLYUSNINA, Ol'ga Pavlovna; KOVALEVA, A.A., redaktor;  
POLOSINA, A.S., tekhnicheskiiy redaktor.

[Advanced practice in using submerged electric pumps] Peredovoi opyt  
primeneniia pogrushnykh elektronasosov. Moskva, Gos.naucho-tekhn.  
izd-vo nef'tianoi i gorno-toplivnoi lit-ry, 1956. 52 p. (MLRA 9:4)  
(Petroleum--Pumping)

KHANANYAN, Melik Makarovich

PANAKHOV, Mureddin Akper ogly; KHANANYAN, Melik Makarovich; KOVALEVA,  
A.A., redaktor; ERDENKO, V.S., tekhnicheskii redaktor

[Experience in drilling and operating multiple wells] Opyt  
bureniia i ekspluatatsii mnogoriadnykh skvazhin. Moskva, Gos.  
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48 p. (MIRA 9:4)

(Oil well drilling)

*KHANAPETOV, M.V.*

AUTHOR: Khanapetov, M.V., Engineer

135-12-14/17

TITLE: Welding Engineering in the All-Union Industrial Exhibition 1957  
(Svarochnaya tekhnika na Vsesoyuznoy promyshlennoy vystavke 1957 g.)

PERIODICAL: Svarochnoye Proizvodstvo, 1957, # 12, p 38-44 (USSR)

ABSTRACT: The article is an illustrated review of the new Soviet welding equipment shown during the industrial exhibition 1957. The following devices and materials were shown in illustrations and/or described in some detail in the review. The All-Union Scientific Research Institute for Welding Equipment (Vsesoyuznyy nauchno-issledovatel'skiy institut svarochnogo oborudovaniya, VNIIESO) demonstrated the cold welding machine "MCXA-50" (Figure 1) for reinforcing aluminum winding lead-outs with copper terminals, joining copper plates to aluminum bus-bars, and for cold spot welding of aluminum up to a thickness of 4+4 mm, with initial pneumatic pressure of 6 atm, welding pressures of 50 tons, and an operating speed of 300 weldings per hour.

The Electrical Engineering Institute of the Ukrainian Academy of Sciences (Institut elektrotekhniki AN USSR) demonstrated manual pliers for butt and overlap cold welding of aluminum

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and copper wires, "KC-6" (Figure 2), of 1.5 kg weight, handy in assembling work.

The Scientific Research Institute of the Cable Industry (Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti, NIIKP) showed the "ННМКП-ПС-7" device (Figure 3), for cold butt welding of aluminum wires, copper wires, and aluminum wires with copper wires.

The friction welding method is demonstrated in the VNIIESO stand on a friction welding device and high-quality welded joints of brass with steel, brass with cast iron, aluminum with duralumin, etc. are shown.

The Central Scientific Research Laboratory of the USSR Academy of Sciences (Tsentral'naya nauchno-issledovatel'skaya laboratoriya AN SSSR) exhibits the electric spark device "VNP-3m" with a pistol fixture for surfacing tools and other wearing surfaces with wear-resistant alloys, with an accuracy of 0.1 mm thickness. The device may be also used for cutting thin sheet metal.

The ultrasonic soldering device "VН-21" (Figure 4) solders aluminum and aluminum alloys without the use of fluxes, by

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and alkaline-earth metals (no closer specification given), and which permits welding titanium with standard welding equipment on d.c. of inverse polarity.

The device of the NKMZ (Kramatorsk) for electric slag welding with melting wire-holding tubes (Figure 7, foreground) differs from the usual electric slag welding technology by the use of a so-called technological plate of an outline identical with the outline of the section to be joined (Figure 8). The plate with the attached tubes carrying the welding wire will be inserted into the gap at the joint and melts together with the welding wire and tubes in the rising welding puddle.

The Zhdanovskiy Metallurgical Institute demonstrates a torch (Figure 9) for automatic arc welding thin stainless steel sheets with melting electrodes in CO<sub>2</sub>, which is simple in design and needs no cooling.

The machine "MC-O,75" (Figure 10) for contact butt welding wires of ferrous and non-ferrous metals and alloys (producer not identified), receives power from a 220 volt network and makes 9 welds per minute.

Welding transformer (producer not identified) "BCC-120-1"

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(Figure 11), for manual d.c. arc welding thin sheet metal, differs radically from the designs built in USSR thus far. It has no rotating parts and consists of a reducing three-phase transformer, a welding current reactor-adjuster, a rectifier block and a starting-adjusting arrangement, all mounted in one housing. The rectifier block consists of a three-phase bridge circuit of 100 x 400 mm selenium discs of the "ABC" type on an aluminum base. (The characteristic of this transformer is given).

The gamma-apparatus "ГГН-СО-50" (Figure 12), unidentified manufacturer, is for laboratory as well as industrial use and works on 220 volt a.c.. Its gamma ray source is Co<sup>60</sup>. Its conical gamma ray beam reaches through 200 to 500 mm steel.

There are 12 figures.

AVAILABLE: Library of Congress

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KHANAPETOV, N.V., inzh.

Creative contribution of automobile designers. Izobr.v SSSR  
3 no.1:28-30 Ja '58. (MIRA 11:1)  
(Automobiles--Design and construction)



KHANAPETOV, M.V.; BORISOV, M.A.

The AB-4-T/230 gasoline-powered unified electric plant. *Bul.tekh.-*  
*ekon.inform. no.6:36-38 '58.* (MIRA 11:8)  
(Electric power plants)

KHANAPETOV, H.V.

The DES-30 and DES-50 mobile electric power stations. Biul.  
tekh.-ekon.inform. no.11:42-43 ' 58. (MIRA 11:12)  
(Electric power plants)

KHANAPETOV, M.V.

The 4724 electric-erosion copying broaching machine. Bul.  
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(Electric metal cutting)

KHANAPETOV, M.V.; BORISOV, M.A.

Power single-phase three-winding autotransformers. Biul.tekh.-  
ekon.inform. no.1:36-37 '59. (MIRA 12:2)  
(Electric transformers)

BORISOV, M.A.; KHANAPZTOV, M.V.

The TMG-30 and TMG-30P-type d.c. tachometer generators. Biul.  
tekh.-ekon.inform. no.12:32-33 '59. (MIRA 13:4)  
(Electric generators)

KHANAPETOV, M.V.

The MZRKhS-58 gas-cutting machine. Biul.tekh.-ekon.inform.  
no.2:10 '60. (MIRA 13:6)  
(Gas welding and cutting)

25(1)

S/125/60/000/03/015/018  
D042/D001

AUTHOR: Khanapetov, M.V.

TITLE: Welding Technique, at the 1959 Exhibition of the Achievements  
of the USSR National Economy

PERIODICAL: Avtomaticheskaya svarka, 1960, Nr 3, 84-92

ABSTRACT: The exhibits are listed with brief description of the essential features. The "SDVU-2" welder, for diffusion welding<sup>4</sup> of ceramics, cermet, parts of heat-resistant steel and non-ferrous metals in a vacuum by the N.F. Kazakov method was designed by the Moskovskiy tekhnologicheskii institut (Moscow Technological Institute) in cooperation with Kombinat tverdykh splavov (Hard Alloys Combine). It consists of a tube generator, a vacuum chamber, a base plate and a hydraulic cylinder and weighs 500 kg without the generator. The Novokramatorskiy zavod im. Stalina (New-Kramatorsk Plant imeni Stalin) exhibited a 14-ton electroslag-welded specimen, and the Institut elektro-svarki im. Ye.O. Patona (Institute of Electric Welding imeni

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Ye.O. Paton) the "A-372r" and "A-501" electrosag welders. The "A-372r" is for single-pass welding of various (circular, butt, T, etc.) metal joints of 50 to 600 mm thickness; the "A-501" is a magneto-walking welder for vertical angle joints, T and butt welds up to 100 mm thickness. For cold butt welding of single-wire cables and thick wires the Institut elektrotekhnik AN USSR (Electrical Engineering Institute AS UkrSSR) has developed the "SNS-2" table welder; multicore cables can be joined by connecting single cores in sequence; aluminum<sup>2</sup> wire of 4-25 mm<sup>2</sup> cross section area, copper wires of 4-10 mm<sup>2</sup> as well as copper with aluminum can be joined. The "KS-6" hand tongs are for welding aluminum wires with copper wires. The installation for thermite welding of multiwire high-voltage transmission lines, developed by Tsentral'naya vysokovol'tnaya laboratoriya Mosenergo (Central High-Voltage Laboratory of Mosenergo) collectively with Zavod Mosoblsovnarkhoza (Mosoblsovnarkhoz plant) joins the wires by means of simple

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tongs with thermite cartridges. There are several ultrasonic welding, soldering and tinning devices: The "UZSM-1" spot welder for thin sheet metal in which the welding tool tip presses the sheets together with an effort adjustable between 20 and 100 kg, developed by Nauchno-issledovatel'skiy tekhnologicheskii institut' (Technological Scientific Research Institute); the "UZTM-2" for seam welding, with the same generator and transformer having contact rollers driven by a separate motor and a welding speed of up to 850 mm/min; the "UT-4" spot welder of MVTU-MEI, for welding copper and its alloys, stainless steel, aluminum and aluminum alloys, high-melting metals etc. having a thickness of up to 1.5 mm, is used with an "UZG-10" ultrasound generator and makes 20 spot welds in a minute; the "UP-31" device for tinning and soldering aluminum and aluminum alloys with soft solders without flux; the "UZP-3" for tinning and soldering

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aluminum parts with a rate of  $1-2 \text{ cm}^2/\text{min}$ ; the "UP-42" for the same purpose as the two last mentioned devices. Of great interest for welders is a plasma-jet nozzle of the Institut metallurgii im. A.A. Baykova (Metallurgical Institute imeni A.A. Baykov). It has an electrically neutral channel comprised of two electrodes one of which is in the shape of a nozzle and produces an electric discharge ionizing the gas flowing through the nozzle. The bright plasma jet out of the nozzle is 15-20 mm long and has a temperature of  $15,000^\circ \text{C}$ . Argon, helium, hydrogen,  $\text{CO}_2$  or other gas can be used. The plasma jet can be used for melting, welding, soldering, cutting metal and other materials, coating different materials, hardening the surface and cleaning. The "AGN-8-26M" welding head (of NIKhimmash) with a hoseless gas feed is designed for welding the butt joints of fixed stainless steel tubes of 8-25 mm diameter and 1.5-2.0 mm

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wall thickness by use of a non-melting electrode in shielding gas. Unlike the existing ("AGN-8-26", "MS-19" and others) welding heads, argon is fed into the "AGN-8-26M" by a device with immobile and mobile ducts. The semiautomatic "A-547" of the Institute of Electric Welding imeni Ye.O. Paton is for welding thin metal by short seams with a melting electrode in shielding carbon dioxide gas for welding in any position. The "PDPG-300" of VNIIESO is a semi-automatic welder for direct-current welding by a melting steel electrode in shielding gases. The electrode diameter is 0.8-2 mm, the wire feed is adjustable between 1.5 and 16 m/min, the current 300 amp, 15-40 volt and the gas consumption is 600-1500 liter/hr. VNIIAVTOGEN exhibited new gas-electric cutters which cut, by "penetrating arc", non-ferrous metal and stainless steel up to 40 mm thickness. The "UDR-1-58" for straight cutting on a self-propelled carriage and the "UDR-2-58" for manual

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cutting. The "UDS-58" of the same institute is an arc welder suitable for mechanical as well as manual welding of non-ferrous metals by a melting electrode in shielding gas. The knapsack type semi-automatic "PShV-1" for arc welding in shielding gas by a tungsten electrode welds straight and curved seams in any position the nozzle rests on the filler wire in the process which ensures constant arc length. The "PShP-9" is a semi-automatic hose welder for irregular shaped short welds in shielding gas in structural heat-resistant and stainless steel and light alloys. The "ADSP-2", an arc welder for the same metals, is a "welding tractor" working automatically. The "ADSV-2M" is another "tractor" working with a nonmelting electrode and filler wire. The semi-automatic "PGSh-2M", of TsNIITMASH, is for welding by a melting electrode of 1.6-2 mm diameter in CO<sub>2</sub> with up to 500 amp current and with the wire feed speed controlled by changing the r.p.m. of the motor between 10.8 and 648 m/hr. The

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"UDAR-300" (photo, Figure 1) of the "Elektrik" plant is for manual arc welding of aluminum and aluminum alloys by a non-melting electrode in argon using a.c. up to 300 amp. The "ADPG-500" welding tractor of VNIIESO is for welding by d.c. in shielding gas by melting steel wire. The following resistance welding machines were demonstrated: the "SHKM-3", a universal capacitor-type seam welder designed by the Institute of Electric Welding AS UkrSSR and the Kiyevskiy politekhnicheskii institut (Kiyev Polytechnical Institute) having an electronic control of the capacitors and used for ferrous and nonferrous metal of 0.05 to 0.7 mm thickness; the capacitor-type "MShK-3-2" of VNIIESO for stainless steel and nonferrous metal of 0.03 to 0.2 mm thickness; the "MRK-3" roller welder for seam welding on bellow thermostats and membrane boxes of steel and bronze with welding pulses from a battery of capacitors. The Institute of Electric Welding

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imeni Ye.O. Paton demonstrated a surfacing welder (photo, Figure 2) with a thin metal band for the electrode to ensure a high productivity and even coating layer which moved 4-12 m/hr and coated a layer of 2-8 mm in a single run. The Ural'skiy politekhnicheskii institut im. S.M. Kirova (The Ural Polytechnical Institute imeni S.M. Kirov) displayed the automatic vibro-arc "VG-2" welder (Figure 3) for cylindrical and flat work which is suitable for high-alloy steel including high-speed cutting grades, welds in shielding medium of a 4-per cent solution of calcinated soda, or a 10-per cent sodium fluoride or on CO<sub>2</sub>. The automatic "D-1" of the Ukhtinskiy mekhanicheskii zavod (Ukhta Mechanical Plant) is designed for vibrational surfacing of steel and cast iron work with steel in a jet of cooling liquid - the welding head is used on a lathe toolpost. The automatic "KUMA-5M" of the Chelyabinskiy zavod im. S. Ordzhonikidze (Chelyabinsk Plant imeni S. Ordzhonikidze) used for pulse-arc surfacing

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of worn machine parts by applying coatings of 0.5 to 3 mm is also used on lathes. The "EM-9" of VNIIVTOGEN for restoring worn shafts, bushings, etc. can also be used for patching steel and nonferrous castings and for raising the heat-resistance of steel. The vibrational welding head of Engineer A.M. Barabanov is for surfacing worn parts with layers of 0.5-2.5 mm. The few devices for welding under flux include the following: the "A-564" of the Institute of Electric Welding imeni Paton, for attaching 4-12 mm diameter studs by welding with special flux rings in a vertical and overhead position it attaches a stud in 1.2 - 3 sec. and weighs 2.2 kg; and the "UT-1250-3" welding tractor of TsNIITMASH which automatically welds butt and angle welds. The gas cutter "MZRKhS-58" (Figure 4) of the Kherson Sovnarkhoz, weighing 25 kg, is designed for trimming the edges of round parts and can replace a turret lathe for trimming parts of 600 to

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3,000 mm diameter and 5-100 mm thickness and an electro-magnet of 100 kg pulling force is placed in the machine base to hold it in a vertical position. N.M. Kudryavtsev's machine (Figure 5) is a gas cutter for pipes of 57-529 mm diameter and 1-12 m length - it can cut straight and with different bevel angles and can cut out apertures in pipe walls; it is driven by an a.c. 0.6 kw motor and has a "bevel variator", a worm gear reductor and a pair of spur gears. The "dry" acetylene generator "ASR-1-56" (Figure 6), of VNIIVTOGEN, gives dry powdery waste line and has a work capacity of 20 m<sup>3</sup>/hr - 80 kg of carbide are charged at a time. The "VSS-300-2" welding rectifier, of VNIIESO, is for manual d.c. arc welding with current from an a.c. network and has aluminum transformer windings plus an automatic overheating switch. The single-pole "TSK-300" transformer (Figure 7) is for use in manual arc welding, cutting and surfacing, and has a capacitor in parallel with the primary winding to raise the power factor (the mean

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value of power factor is 0.93). The mobile "STN-500-1" transformer of the Vil'nyusskiy zavod elektrosvarochnogo oborudovaniya (Vil'nyus Electric Welding Equipment Plant) is for manual cutting and welding. The "IST-1M" instrument of the Ufimskiy zavod (The Ufa Plant) measures the current flowing through parts being welded on resistance welding machines. The "IDTs-1" ultrasonic defectoscope of TsNIITMASH reveals defects in metal parts in disc form with a central bore - the results are mechanically recorded and visually observed on indicators. The magnetic "MPD-1" mobile defectoscope (also TsNIITMASH) tests large metal parts by magnetic powder and is fitted with a portable pump. There are 7 photographs.

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S/193/60/000/005/004/012  
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AUTHOR: Khanapetov, M.V.

TITLE: The Ultrasonic Y3CM-1 (UZSM-1) and Y3CM 2 (UZSM-2) Welding Machines

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, 1960, No. 5, pp. 12 - 15

TEXT: The Nauchno-issledovatel'skiy tekhnologicheskii institut (Scientific Research Institute of Technology) NITI in 1959 developed the UZSM-1 and UZSM-2 machines for the ultrasonic spot and seam welding of sheet metals. The operation principle of the machines is based on the conversion of high-frequency electric oscillations into horizontal mechanical oscillations of high frequency. The main part of the machines is the magnetostriction converter of the ПМС-15 (PMS-15) type, which in the UZSM-1 machine is fed from the serial Y3Г-10 (UZG-10) or Y3Г-2,5 (UZG-2,5) generators. In the UZSM-1 machine, devised for spot welding, the oscillations of the converter are transmitted through a waveguide to the upper cap fastened to the tool tip. The tool is detachable to enable it being replaced when the cap is worn or if it is necessary to produce welding spots of another size. The magnetostriction converter and, during protracted operation, also the tool with

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The Ultrasonic Y3CM-1 (UZSM-1) and Y3CM-2 (UZSM-2) Welding Machine

X

cap and conductor are water-cooled. During operation the workpieces are clamped with the aid of an pneumatic device, the compressive force of which can be regulated by changing the air pressure. The duration of the welding process is set with the aid of a time relay. For the preliminary setting of the welding time the machine has two scales, one for rough setting with an accuracy up to 1 second, the second scale for a smoother control with an accuracy of up to 0.1 second. Copper, aluminum and its alloys, stainless steel, high-melting and other metals can be welded on the UZSM-1 welder. Also different metals can be welded together, e.g. aluminum to copper, copper to stainless steel etc. The ultrasonic UZSM-2 welding machine has been devised for the seam welding of sheet metals. It has the same magnetostriction converter as the UZSM-1 machine. The welding tool has an upper cap in the form of a roller, while a lower roller is fastened to the bracket. The welding speed is adjusted on a scale placed on the front side of the machine. In contrast to the spot-welding machine, the magnetostriction converter of the UZSM-2 machine rotates together with the welding tool. The cooling water is supplied from the mains to the converter through a connecting joint. The workpieces are clamped after a foot pedal has been pressed. To guide the components properly during the welding process, a small table with bedways is fastened on the level of the upper

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A004/A001

The Ultrasonic Y3(M-1 (UZSM-1) and Y3(M-2 (UZSM-2) Welding Machine

edge of the lower welding roller. The bedways can be adjusted according to the width of the sheets being welded. The machine is supplied from a UZG-10 or UZG-2,5 generator with a power consumption of 5 kw and a power output of 2.5 kw. The following technical data are given concerning both the UZSM-1 and UZSM-2 models (data of the latter in brackets): power of magnetostriction converter, kw - 2.5-4 (2.5-4); operation frequency, kcps - 19.5 (19.5); power of driving electric motor, kw - -- (0.12); clamping stress, kg - minimum - 20 (20), maximum - 100 (140); maximum distance of spot or seam from the sheet edge (tool sweep), mm - 75 (135); duration of welding, sec. - 0.5 - 3; welding speed, mm/min: minimum - -- (75), maximum - -- (850); thickness of sheet being welded - 1.5 (1.5); water consumption, l/min - 3 (-); air consumption, m<sup>3</sup>/min - 0.003 (-); overall dimensions (length x width x height), mm - 670 x 430 x 1,250 (950 x 490 x 1,320); weight, kg - 120 (200). There are 2 figures. ✓

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S/125/60/000/05/14/015

AUTHOR: Khanapetov, M. V.

TITLE: All-Union Scientific-Technical Conference on the Use of  
Semiconductor Power Rectifiers

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 5, pp. 94-95

TEXT: Information is given on a conference held in November 1959 in Moscow, on the use of semiconductor rectifiers in transportation and at industrial works, including welding. I. Salynskiy, in his report "Semiconductor (selenium) Rectifiers For Welding Machines" treated the problems of the selection of selenium cells, their calculation, design and the test of rectifier units; he outlined the advantages thereof, compared to the rotary converters (higher efficiency, economy of nonferrous metals, reduced dimensions and current losses). The Soviet industry produces now semiconductor rectifiers applicable for welding transformers - silicon, germanium and selenium diodes. The silicon and germanium rectifiers are highly efficient, but only few are produced yet and they are expensive, but the production of selenium rectifiers has been improved considerably. Cells with 60-80 volt reverse voltage are under development; the load

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Power Rectifiers

currents of cells under development and already produced is raised three and even five times. Thallium elements have considerable advantages except for their life, though it appears that it can be extended. In view of this thallium elements of 100x400 mm size were accepted for development. A selenium unit of such elements has one third of the elements of a normal rectifier, it is 2.6 times smaller, 2.9 times lighter, and 50% cheaper. They can be recommended for use in welding transformers for 120 and 300 amp. Converters with saturation chokes and mobile coil transformers have been tested, and the converters with coils ("VSS-120-3" and "VSS-300-2") proved considerably better from the technical and economical point of view. B. V. Strogov reported on "Experience in Making and Using Selenium Rectifiers" and described a selenium rectifier with saturation choke for welding purposes. M. M. Smirnov informed on production and application of semiconductors at the Avtozavod im. I. A. Likhacheva (Automobile Plant imeni I. A. Likhachev), where a new converter, "SP-300" is being developed for 200 kva. The secondary windings of the transformer and the choke are put together; current is adjustable between 300 and 30 amp, idle run voltage is 72. Negative feedback gives an abrupt external

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characteristic (the ration of short-circuit current to welding current is 1.2). For better protection from corrosive medium and better cooling of selenium plates, the rectifier unit was placed into a container with transformer oil. The plates are "TBS-100", 288 in all, with two plates connected in series and 24 parallel in every arm. The electromechanical shop of the plant has completed 12 such converters. Besides, the welding laboratory of the Automobile Plant produced a welder, "BG-50", with semiconductor rectifiers. It includes a welding transformer of "ST-2" type and a "REST-2" choke; the germanium diode was cooled by water and the permissible current could be raised to 200 amp. It was stated in comparison tests with the machine converter "PS-300" that even with so imperfect a system the machine with germanium rectifiers had still 67.5% efficiency compared to only 41% of the machine converter. After eight months of use the unit with germanium rectifiers had to be stopped because of clogged pipes in the water cooling system. An analogous machine is completed by now with a protection without water cooling. V. P. Kamenskaya treated methods for a determination of overload capacity of rectifiers and other

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82721

S/118/60/000/007/003/004  
A161/A029

18-7200

AUTHOR: Khanapetov, M. V., Engineer

TITLE: Introducing Modern Welding Engineering Into the National Economy

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, 1960, No. 7, pp. 54-55

TEXT: New welding equipment listed in the article will be demonstrated in July and August 1960 at the exhibition of achievements of the national economy of the USSR. Welding manipulator "YCM-500" (USM-500) of 500 kg lifting capacity is applicable at many USSR plants; manipulators, or positioners, for heavier work will be "CH-1000P" (SM-1000P) with a pneumatic drive lifting up to 1,000 kg, universal "CM-1000" (SM-1000) hand-driven positioner; universal "YCM-1200" (USM-1200) manipulator; universal "CM-5000" (SM-5000) positioner for 5,000 kg. The new plasma jet cutting method will be demonstrated, permitting the cutting of all known materials including materials of highest heat resistance, stainless steel, ceramics. The plasma method is also applicable to welding and spraying. Installations

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Introducing Modern Welding Engineering Into the National Economy

will be shown for plating with heat-resistant metals, for welding by plasma arc, for automatic and manual cutting by plasma jet, and for straight-line cutting of sheets. Specialists will see a special electron-ray welding installation for active metals, and an analogous electric system; A "BYAC" (VUAS) welder for welding active metals in controlled atmosphere and an "YCKB" (USKV) for roller welding in vacuum. Machines for ultrasound welding will include an "Y3CM-1" (UZSM-1) for ultrasound spot welding; an "Y3CA-2" (UZSA-2) for ultrasound seam welding; a transportable "Y3CA-3" (UZSA-3) welder; an "Y3T" (UZT) spot welder; an "Y3W" (UZSh) with roller contacts; "Y3CMM" (UZSPM) for welding polymers. The cold butt welding machines "MCXC-35" (MSKHS-35) and "MCXC-5" (MSKHS-5) can weld aluminum to copper, aluminum to aluminum, and copper to copper. The "MCT-34" (MST-34) friction butt welding machine with pneumo-hydraulic grips and pushbutton control is an automatic machine for large steel and alloy parts. Besides, there will be equipment for diffusion welding in vacuum; for making flexible hose by roller welding; for welding aluminum alloys of high thickness; for sheets less than 0.2 mm thick; for welding thin sheet structures by pulsating arc; for argon arc welding by fusing electrodes on immobile butt

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joints of aluminum alloy gas line pipes; for welding with rotating arc in magnetic field. Standardized units for combinations into different special welding devices will include a standardized "AGB" (AGV) welding head for tungsten electrode, automatic "AACB-2" (ADSV-2) and "AACP-2" (ADSP-2) "welding tractors" composed from standardized units and designed for welding with tungsten and with fusing electrode, and universal "AACPB-2" (ADSPV-2) automatic "tractor", also of standard units. Welding techniques will be demonstrated. The welding of plastics and spraying of plastics on surfaces will also be shown. In the section of resistance and arc welding there will be new automatic equipment. A "MWWH-400" (MShShI-400) machine for seam welding of light alloys will be shown in operation. Different welding process watching devices will be exhibited, among them an "PTC-1" (RTS-1) current recorder, an "ACT-2" (AST-2) for measuring current in single-phase welding machines and making possible the watching of the major parameter in resistance welding process; a "PBC-1" (RVS-1) time recorder recording the time of the current passage in resistance welding. One gas cutting semi-automatic is expected to arouse much interest, it is designed for cutting complex lines, eliminates the use of templates, gives a clean cut, ensures tight pipe joints, and reduces 8 times the cutting time comparing

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S/110/60/000/010/012/014  
E194/E455

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AUTHOR: Khanapetov, M.V., Engineer

TITLE: An Exhibition of Welding Techniques

PERIODICAL: Vestnik elektromyshlennosti, 1960, No.10, pp.62-65

TEXT: The Engineering Pavilion of the Exhibition of Achievements of the National Economy contains an exhibition of modern welding technique; this note mentions the main exhibits. Resistance butt-welding machine type MPC-50 (MSR-50) of 50 kW is used for sections up to 800 mm<sup>2</sup>. The travel of the moving tip is 30 mm and the maximum distance between tips 100 mm. A pipe-welding machine producing pipes of from 0.5" to 1.25" is shown. Machine type MTPP-75 (MTPP-75) will spot-weld parts of low-carbon steel 0.5 to 1.5 mm thick. The machine cycle is governed by an electronic time controller type PBE-7 (RVE-7). The machine also has an asynchronous ignitron contactor type KIA-50 (KIA-50). The output of the machine is 60 to 120 spots per minute. Machine type MCMY-150 (MSMU-150) carries out butt-welding on low-carbon steel parts of 1000 mm<sup>2</sup> section. The machine can make 80 welds per hour, the power is 150 kVA and the compressive pressure is up to 150 kg/cm<sup>2</sup>.  
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X

# An Exhibition of Welding Techniques

to 6500 kg. Machine **MCM-150** (**MSM-150**) uses a continuous melting method to produce butt-welded tubes for refrigerator coils. Control mechanisms are particularly important. Welding-current recorder type **PTC-1** (**RTS-1**) records and measures the welding current and power in the circuit; the sensitive element is a germanium Hall-effect pick-up. Time controller type **РЦС-1** (**RTsS-1**) provides universal sequence and time control for the automatic cycle of a resistance welder. Instrument type **ACT-2** (**AST-2**) can measure the current in single-phase welding machines, thus permitting control of the main parameter in resistance welding. An automatic welding-current controller maintains constant welding current with varying welding circuit parameters. The All-Union Scientific Research Institute of Electrical Welding Equipment demonstrates equipment type **УСЭП-1** (**USEL-1**) intended for welding with an electron beam in vacuum on metals that oxidize rapidly and are hard to melt. A similar equipment type **ЭЛУ-1** (**ELU-1**) is used with chemically-active metals which react with the atmosphere. The new equipment type **ВУАС** (**VUAS**) for automatic

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15400 also 2708

S/135/60/000/012/004/010  
A006/A001

AUTHOR: Khanapetov, M.V., Engineer

TITLE: Automatic and Semiautomatic Welding Under Flux 18

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 12, pp. 14-18

TEXT: The author reports on equipment for welding under flux shown in an exhibition, including the following machines. The TC-32 (TS-32) (Figure 1) welding tractor, intended for single-pass, one-sided automatic welding under flux on d.c. of 3-12 mm thick steel sheet butt joints. One-sided welding with full penetration is performed on a water-cooled copper slider, forcibly forming the lower bead of the seam. The technical characteristics are: diameter of the electrode wire: 2-5 mm; electrode wire feed rate: 2.3-4.7 m/min. Welding rate: 24-50 m/hour; rated current - 900 amp; control limit of the welding current - 400 to 1,200 amp; feed voltage 220 or 380 v; clamping force of the lower suspension with the travellers - 500 to 600 kg. The TC-33 (TS-33) tractor is intended for the automatic welding of aluminum with a semi-open arc on a flux layer. It is equipped with a multi-purpose attachment for arranging the seam between the wheels and at the side of the tractor and can be used for welding butt and angular joints

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Automatic and Semiautomatic Welding Under Flux

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on up to 40 mm thick metal and annular seams on containers of 1,000 mm in diameter and more. The technical characteristics are: electrode wire diameter - 1 to 4 mm; welding current - 100 to 800 amp; welding rate - 8-60 m/hour; dimensions of the machine: 750x350x480 mm. The multi-purpose VCA-500 (USA-500) welding machine (Figure 2) is intended for arc welding on d.c. of straight and annular overlap and butt joints with or without final shaping, with consumable electrodes under flux, in argon or other shielding gases, with unconsumable electrodes with or without filler metal in a gas shield. Technical characteristics: maximum welding current - 500 amp; electrode wire diameter - 0.4-2 mm, tungsten electrode diameter - 2 to 6 mm; electrode wire feed rate: 80 to 1,425 m/hour; welding speed 10 to 60 m/hour. The ADMT-300 (ADMT-300) welding machine (Figure 3) can be used for overlap welding 0.5-3 mm thick metal and thin sheets with plates (overlap of about 1 + 40 mm) under flux or in shielding gas, two electrodes may be used. Technical characteristics: welding wire diameter, 0.2-1.2 mm, electrode wire feed: 1-36 m/min; welding speed: 4-130 m/hour; welding current up to 350 amp; dimensions: 550x170x400 mm; weight - 25 kg. The ADK-500-6 (ADK-500-6) machine designed by VNIESO, is intended for arc welding under flux or annular seams, arranged on a horizontal, vertical or inclined surface. A round table, a feed mechanism with a welding head and a control desk are mounted on a stand, the table

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Automatic and Semiautomatic Welding Under Flux

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rotates at 0.18-2.61 rev/min; the electrode wire diameter is 1.6-2.5 mm; the electrode feed rate is 1.5-16 m/min; the diameter of welded annular seams is 150-600 mm; maximum weight of the welded work piece is 400 kg; d-c of 180-600 amp is used; feed voltage is 220 or 380 v; dimensions of the unit: 2,200x1,300x1,747 mm, weight 650 kg. The АСГК-1 (ASGK-1) automatic welding head, developed by NIITRAKTORSEL' KhoZMASH is intended for welding annular seams and is an exchangeable unit of the multi-purpose YCA-2 (USA-2) welding tractor. The head may be used for welding longitudinal seams on a work piece moving toward the fixed head. Welding may be performed under flux and in a shielding gas. Technical characteristics: 150-600 amp current; 25-40 v arc voltage; 50-650 m/hour electrode feed rate; 1.2-3 m welding wire diameter; dimensions: 1,000x250x700 mm; weight 50 kg. The automatic ТФД-1000 (TFD-1000) automatic machine is intended for welding with a three-phase arc of low-alloy and carbon steels by single-pass and multi-pass large seams, using 2 electrodes under flux. The arcs are burning between the electrodes and between each electrode and the work piece. Due to the absence of throttles and other special resistances, the voltage in the circuit remains practically constant. The diameter of the electrode wire is 3-4 mm, current on the electrodes - 400-1,200 amp, current in the work piece circuit - 200-1,500 amp; electrode feed rate - 200-600 m/hour; welding speed - 17-50 m/hour. Efficiency

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